

# NASA TECH BRIEF

*Marshall Space Flight Center*



NASA Tech Briefs announce new technology derived from the U.S. space program. They are issued to encourage commercial application. Tech Briefs are available on a subscription basis from the National Technical Information Service, Springfield, Virginia 22151. Requests for individual copies or questions relating to the Tech Brief program may be directed to the Technology Utilization Office, NASA, Code KT, Washington, D.C. 20546.

## Computer-Aided Design of Large-Scale Integrated Circuits: A Concept

A computer study effort has been undertaken to develop a software program for the computer-aided design of the photographic masks necessary for integrated circuit fabrication. The circuit design and mask development sequence have been considerably improved by the use of a general purpose computer with an interactive graphics capability that establishes an efficient two-way communications link between the design engineer and the system. The interactive graphics capability places the design engineer in direct control of circuit development.

The final report of the study contains a discussion of: the functional design of the baseline software; the processor requirements, including initial storage estimates and input/output requirements; the designer/computer communication interface, both with and without a graphics terminal; and the standardized placement and interconnect ground rules established during the study phase.

Although the functional design of the computer program was accomplished under the constraint of using an available small system, additional capability can readily be developed with the established design concepts.

### Note:

Requests for further information may be directed to:

Technology Utilization Officer  
Code A&TS-TU  
Marshall Space Flight Center  
Huntsville, Alabama 35812  
Reference: B71-10238

### Patent status:

No patent action is contemplated by NASA.

Source: T. T. Schansman of  
M&S Computing, Inc.  
under contract to  
Marshall Space Flight Center  
(MFS-20600)

Category 09